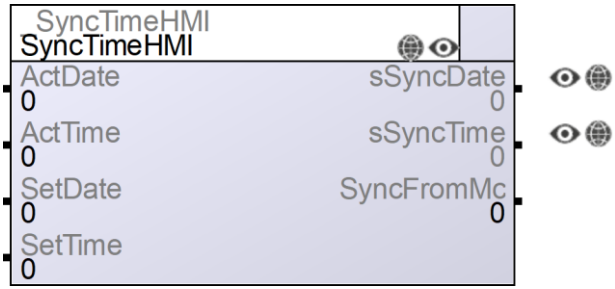
_SyncTimeHMI



This class is used to synchronize the date and time of two CPUs

Interfaces

Servers

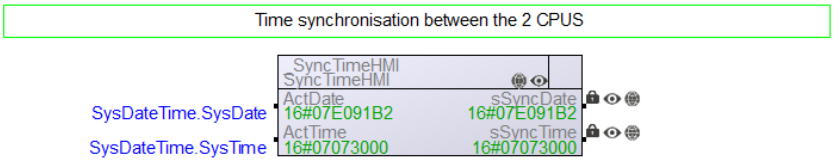
sSyncDate	Server with synchronized date ("World", transfer via MultiMaster) An input is also possible (starting with V.2.0)
sSyncTime	Server with synchronized time ("World", transfer via MultiMaster) An input is also possible (starting with V.2.0)
SyncFromMc	Server is needed for the synchronization of data from the Machine Control to the HMI. 0 … Synchronization from HMI to MC 1 … Synchronization from MC to HMI

Clients

ActDate	Current system date
ActTime	Current system time
SetDate	Destination for new date (e.g. on the machine control) (starting with V.2.0).
SetTime	Destination for new time (e.g. on the machine control) (starting with V.2.0).

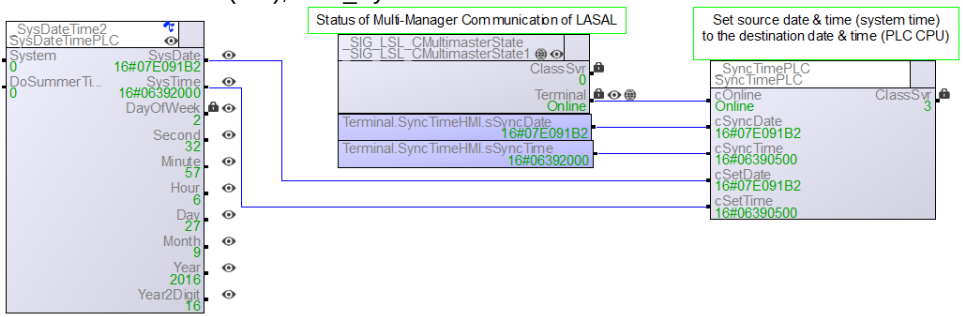
Using old Variants

The screen shots show the classes before Version 2.0.
Starting with V.2.0, the classes have additional connections If this is not used, the class can still operate in the old synchronization variant.



Date and time are output to the sSync servers and and transmitted via multi-master to the MC as world variables.

In the remote station (MC), the "_SyncTimePLC" class must be used.

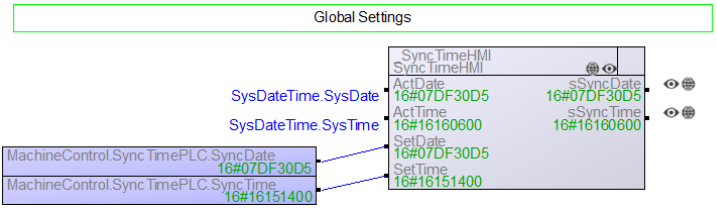


→the input is entered in the class server "SysDate" via the visualization and "SysTime" of the HMI object "SysDateTime"
→ the class servers mentioned above are connected to the Act clients of "SyncTimeHMI"
→ the "SyncTimeHMI" object stores the Act-Client data cyclicaly in the sSync-Server
→ the sSync servers are sent to the MC via the Multimaster - the cSync clients of the MC objects "SyncTimePLC" is connected there.
→ the MC object "SyncTimePLC" transfers the Sync client to the Set clients in minute intervals
The MC clock is now synchronized.

Disadvantage: it can take up to one minute, since it is now possible to react to the input directly.

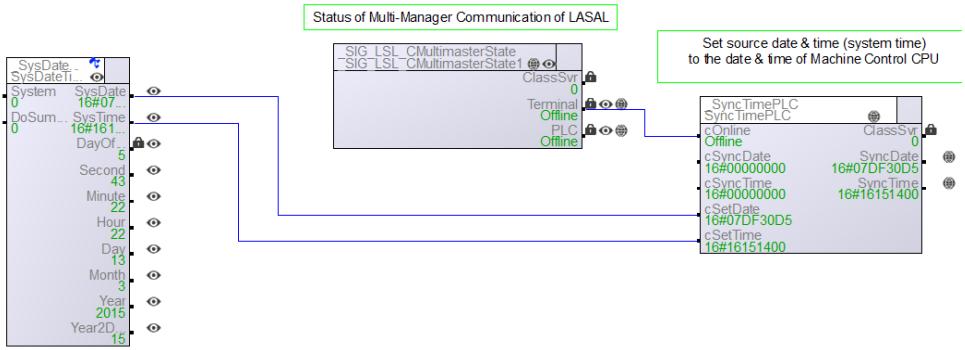
Using New Variants

Starting with V.2.0, the classes have additional connections



Date and time are output to the sSync servers, here input is now also possible!

In the remote station (MC), the "_SyncTimePLC" class must be used.



→the input is entered in the class server "sSysDate" via the visualization and "sSyncTime" of the HMI object "SyncTimeHMI"
→ the entries mentioned above are sent to the Act clients and therewith the connected class servers "SysDate" and "SysTime" of the HMI object "SysDateTime"
→ the entries mentioned above are also sent to the optional Set clients
→ the Set clients are connected with the Sync severs of the "SyncTimePLC" object on the machine control (MC) via MultiMaster
→ the MC object "SyncTimePLC" sends the new data with each Server write() to the Set clients
The MC clock is now synchronized.

Advantage: it is possible to react to the entries directly, the clock is immediately synchronized.

Time Synchronization from the Machine Control to the HMI

If the HMI control has no real time clock, but the Machine Control does, the time synchronization can be reversed. In this case the new variant (since version 2.1) must be used. For the implementation, see above. Then it is sufficient to simply set the server SyncFromMC to 1. The rest then works as usual.